

CLAIMS

What is claimed is:

1. An integrated anastomosis tool for forming an opening in a target vessel and connecting a graft vessel to the target vessel, the device comprising:
 - a tool body including an introducer configured to substantially seal against the target vessel;
 - a cutting device movably attached to the tool body and configured to form the opening in the target vessel; and
 - a graft vessel attachment device movably attached to the tool body and configured to connect the graft vessel to the target vessel;wherein both the graft vessel attachment device and the cutting device are movable substantially along a first direction and transverse to the first direction.
2. The integrated anastomosis tool of claim 1, wherein the introducer is splittable.
3. A device for forming an opening in a target vessel and delivering an implantable anastomosis device to connect a graft vessel to the target vessel, the device comprising:
 - a tool body having a lumen;
 - a cutting device configured to form the opening in the target vessel, the cutting device being movable at least partially within the lumen; and
 - a graft vessel attachment device movable at least partially within the lumen for delivering the implantable anastomosis device to the target vessel to connect the graft vessel to the target vessel;

wherein at least one member of the group consisting of the graft vessel attachment device and the cutting device is configured to move away from the axial centerline of the lumen.

4. The device of claim 3, wherein the cutting device includes a substantially circular cutting element.

5. The device of claim 3, wherein the cutting device includes an auger.

6. The device of claim 3, wherein both the graft vessel attachment device and the cutting device are contained within the tool body simultaneously.

7. The device of claim 3, further comprising an introducer connected to the tool body, the introducer having a lumen substantially coaxial with the lumen of the tool body.

8. The device of claim 3, wherein the tool body includes an off-axis area defined therein; and wherein at least one member of the group consisting of the graft vessel attachment device and the cutting device is configured to move away from the axial centerline of the lumen into the off-axis area.

9. An anastomosis tool for forming an opening in a target vessel and connecting a graft vessel to the target vessel, the device comprising:

a tool body having an aperture at a distal end thereof;

a cutting device positioned at least partially in the tool body and having a distal end configured to form the opening in the target vessel, at least the distal

end of the cutting device movable through the aperture; and
a graft vessel attachment device positioned at least partially in the tool body and
having a distal end configured to connect the graft vessel to the target
vessel, at least the distal end of the graft vessel attachment device movable
through the aperture;
wherein the cutting device is movable substantially along a first direction and the
graft vessel attachment device is movable along a second direction
substantially non-parallel to the first direction.

10. The tool of claim 9, wherein the cutting device is also movable substantially along the
second direction.

11. The tool of claim 9, wherein the graft vessel attachment device is also movable
substantially along the first direction.

12. A device for forming an opening in a target vessel, delivering an implantable
anastomosis device to the target vessel, and connecting a graft vessel to the target vessel,
the device comprising:

a cutting device configured to form the opening in the target vessel; and
a graft vessel attachment device configured to deliver and deploy the implantable
anastomosis device to connect the graft vessel and the target vessel;
wherein the cutting device and the graft vessel attachment device are
mechanically linked to sequentially pass the cutting device and the graft
vessel attachment device through a particular point in proximity to an
anastomosis site.

13. The device of claim 12, wherein the device is configured to form the opening without passing the cutting device or the graft vessel attachment device through a lumen of the graft vessel.

14. The device of claim 12, wherein the device is deliver and deploy the implantable anastomosis device without passing the cutting device or the graft vessel attachment device through a lumen of the graft vessel.

15. The device of claim 12, wherein the cutting device and graft vessel attachment device travel on paths that intersect at the particular point.

16. An anastomosis tool for forming an opening in a target vessel and connecting a graft vessel to the target vessel, the device comprising:

- a tool body;

- a cutting device movably attached to the tool body and configured to form an opening in the target vessel; and

- a graft vessel attachment device movably attached to tool body and configured to connect the graft vessel to the target vessel, wherein the cutting device is movable along a first path and the graft vessel attachment device is movable along a second path non-parallel to the first path.

17. The tool of claim 16, wherein the graft vessel attachment device is also movable substantially along the first path.

18. The tool of claim 16, wherein the cutting device is also movable substantially along the second path.

19. The tool of claim 16, wherein the first path and the second path form a Y-shape.

20. The tool of claim 16, wherein the first path intersects the second path.